



Europäisches Patentamt
European Patent Office
Office européen des brevets

Publication number:

**0 087 271
A3**

12

EUROPEAN PATENT APPLICATION

21 Application number: 83300797.4

51 Int. Cl.³: **G 01 V 3/10**

22 Date of filing: 17.02.83

30 Priority: 18.02.82 CA 396553

71 Applicant: **GEONICS LIMITED, 1745 Meyerside Drive, Mississauga Ontario, L5T 1C5 (CA)**

43 Date of publication of application: 31.08.83
Bulletin 83/35

72 Inventor: **McNeill, James Duncan, 44, Longwood Drive, Don Mills Ontario, M3B 1T8 (CA)**
Inventor: **Kaufman, Alexander Arkadievich, 21676 West 15th Place, Lakewood Colorado 80215 (US)**

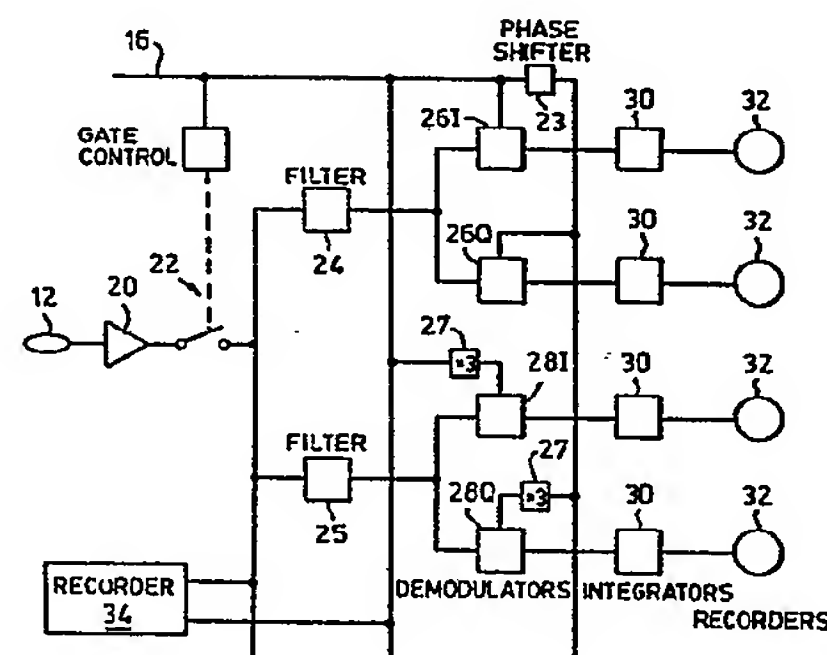
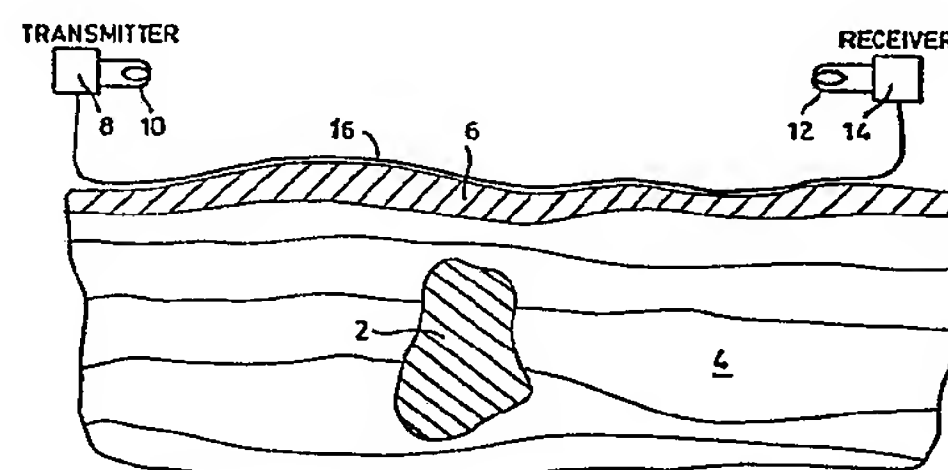
84 Designated Contracting States: **DE FR GB NL SE**

88 Date of deferred publication of search report: 05.09.84 Bulletin 84/36

74 Representative: **Newby, John Ross et al, J.Y. & G.W. Johnson Furnival House 14/18 High Holborn, London WC1V 6DE (GB)**

54 **Electromagnetic geophysical surveying apparatus and system.**

57 A frequency domain geophysical electromagnetic surveying system is provided in which intermittent primary fields having sharp terminations are generated in a cycle having a fundamental frequency by a transmitter, and a receiver includes a gate (22) passing only secondary signals received during interruptions of the primary field, the gated signal being applied to filters (24, 25) turned to harmonics of the predetermined frequency. The filter outputs are synchronously demodulated (26I, 26Q, 28I, 28Q) to provide signals corresponding to at least the in-phase component of the secondary signal at the fundamental frequency, and preferably in-phase and quadrature components at at least two harmonics. The system can provide improved resolution particularly of the characteristics of in-phase secondary signals received from terrain being surveyed.



EP 0 087 271 A3



DOCUMENTS CONSIDERED TO BE RELEVANT			
Category	Citation of document with indication, where appropriate, of relevant passages	Relevant to claim	CLASSIFICATION OF THE APPLICATION (Int. Cl. ³)
A	FR-A-2 376 561 (BARRINGER) * Page 1, lines 1-18 *	1,6	G 01 V 3/10
A	--- US-A-3 950 695 (A.R. BARRINGER) * Abstract *	1,6	
A	--- US-A-4 228 395 (G.J. DUSHEK, Jr.) * Abstract *		

			TECHNICAL FIELDS SEARCHED (Int. Cl. ³)
			G 01 V
The present search report has been drawn up for all claims			
Place of search THE HAGUE		Date of completion of the search 21-05-1984	Examiner MIELKE W
<div>CATEGORY OF CITED DOCUMENTS</div> <div>X : particularly relevant if taken alone Y : particularly relevant if combined with another document of the same category A : technological background O : non-written disclosure P : intermediate document</div> <div>T : theory or principle underlying the invention E : earlier patent document, but published on, or after the filing date D : document cited in the application L : document cited for other reasons & : member of the same patent family, corresponding document</div>			